

Figure 1a

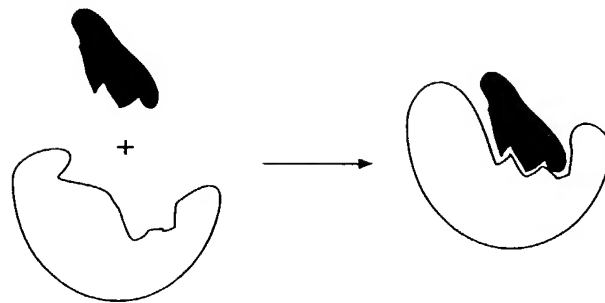


Figure 1b

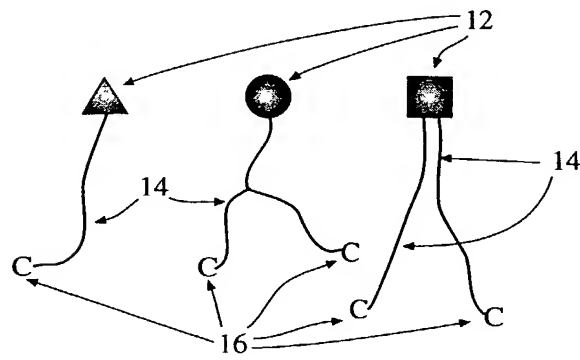


Figure 2(a)

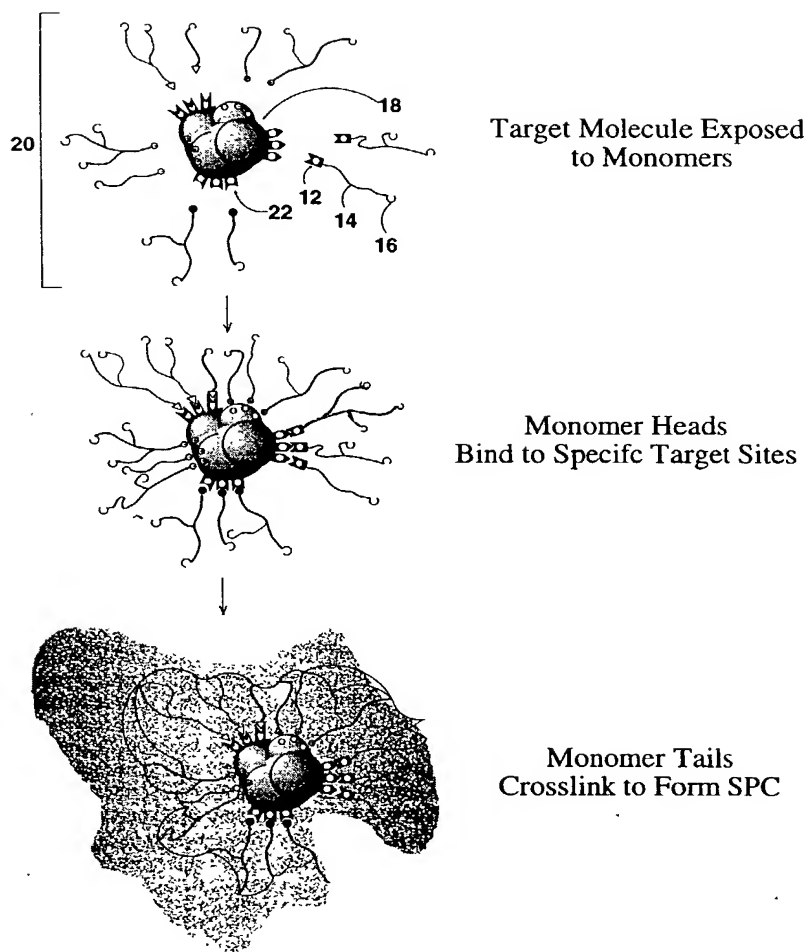
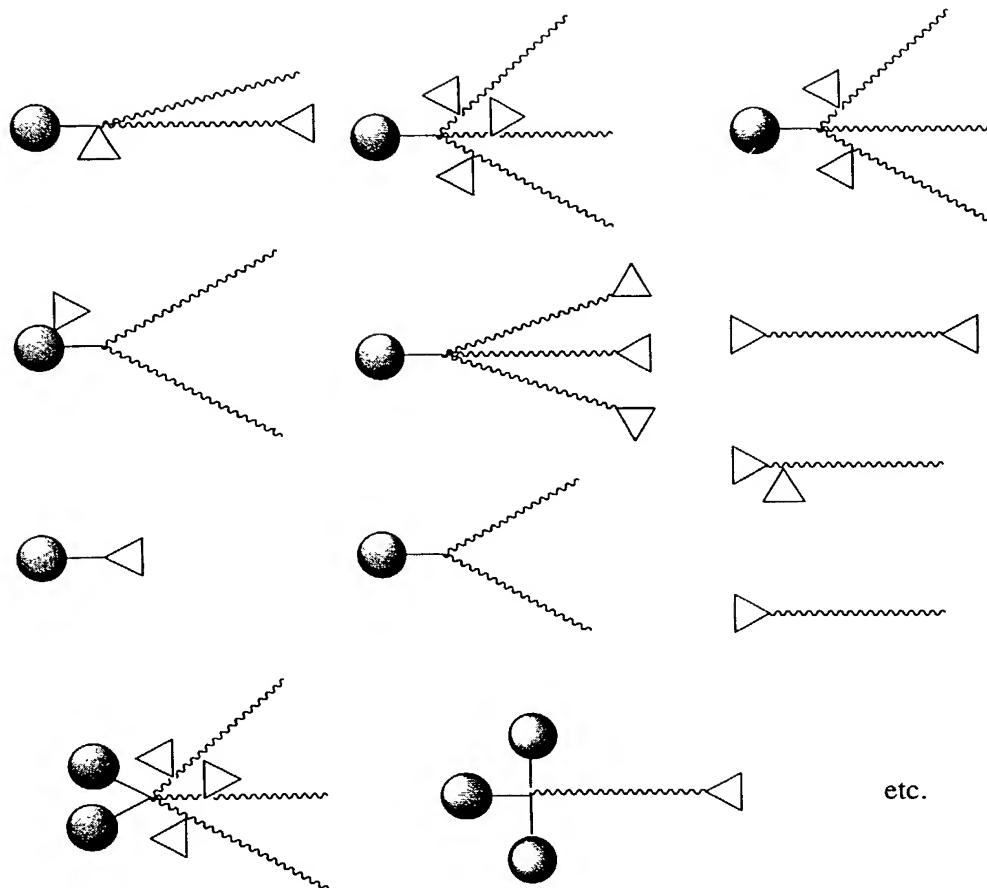


Figure 2b



# Key to Shapes



Head



Crosslinking  
moieties



Tail

etc.

Figure 2c

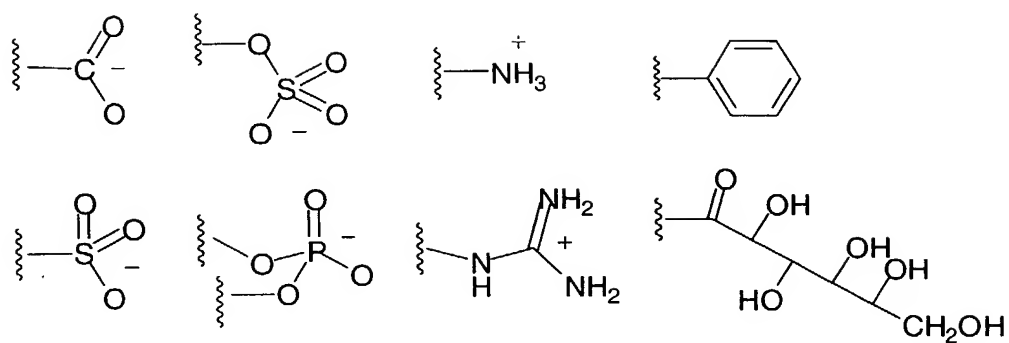


Figure 3

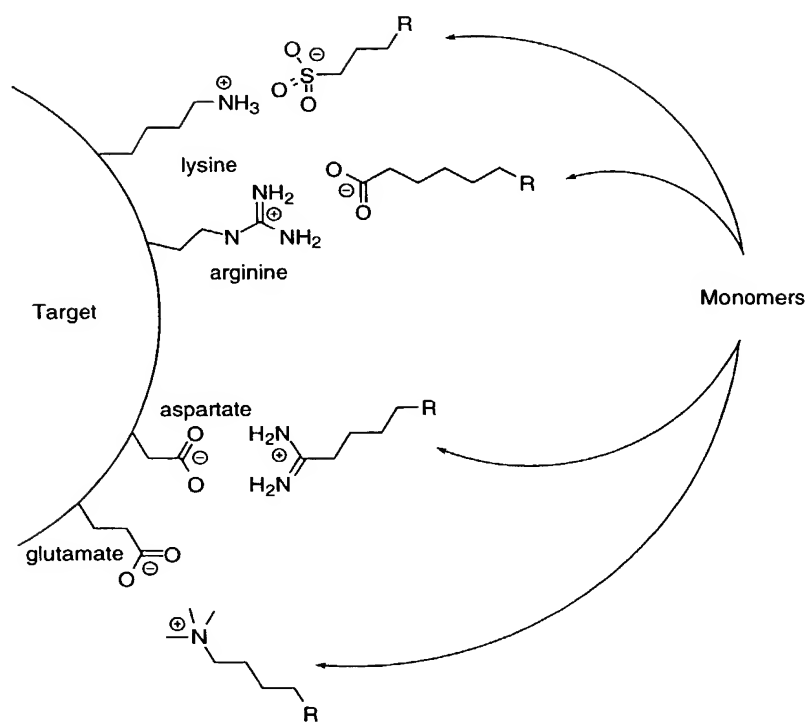


Figure 4

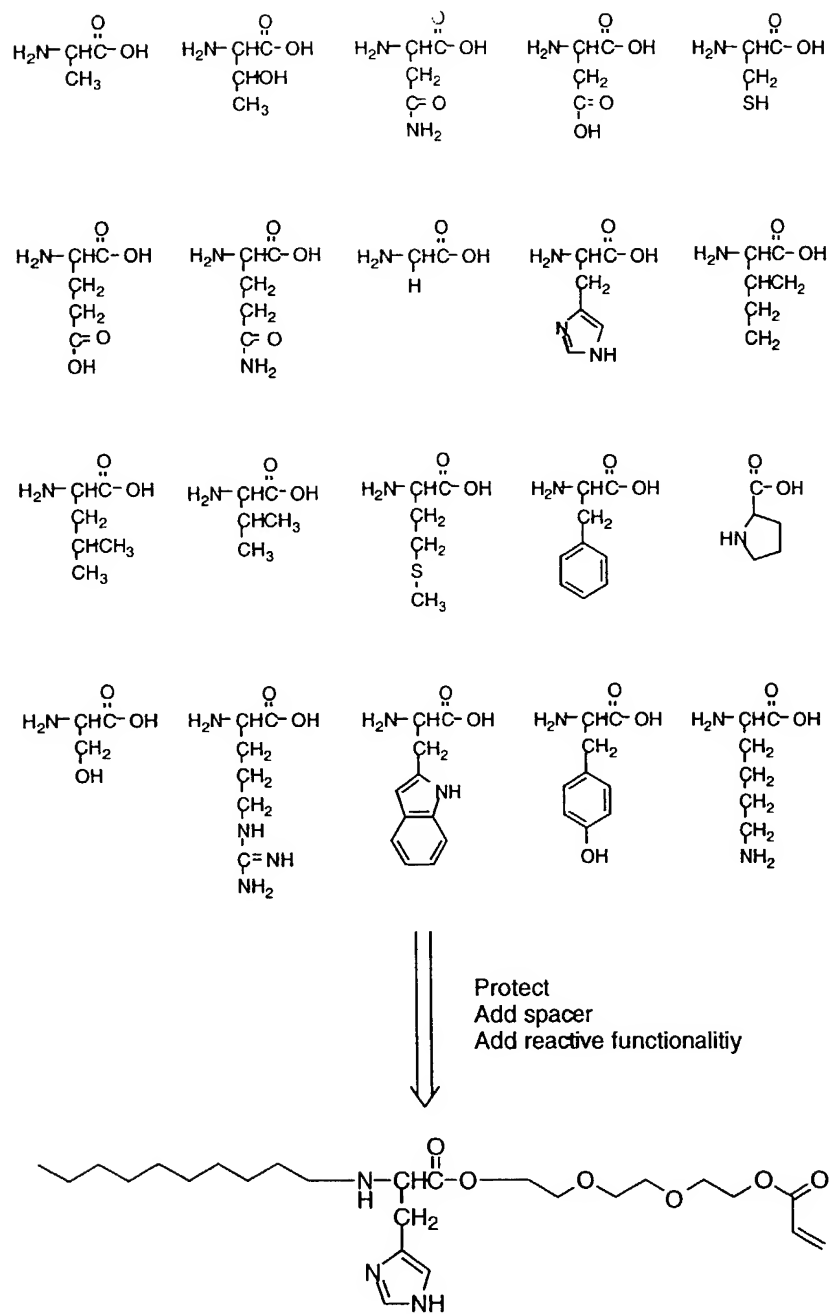
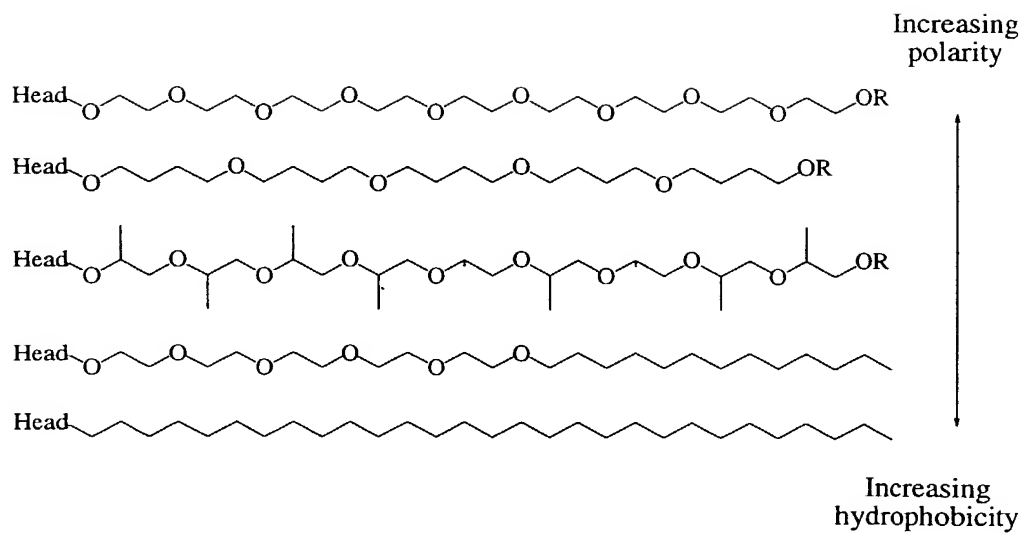
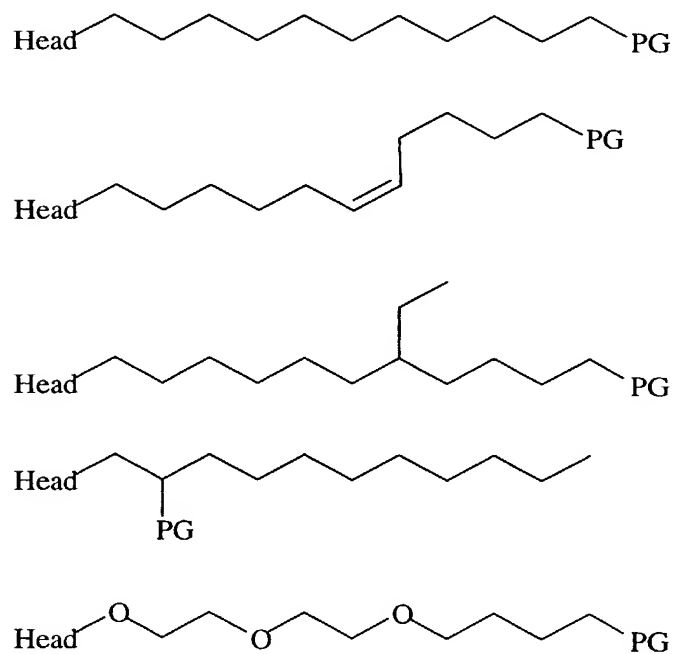


Figure 5



R = H or CH<sub>3</sub>. The polymerizable group may be attached at any point along the tail structure

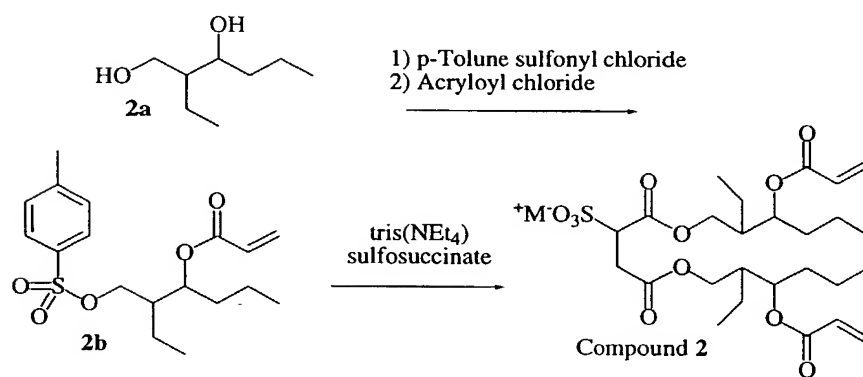
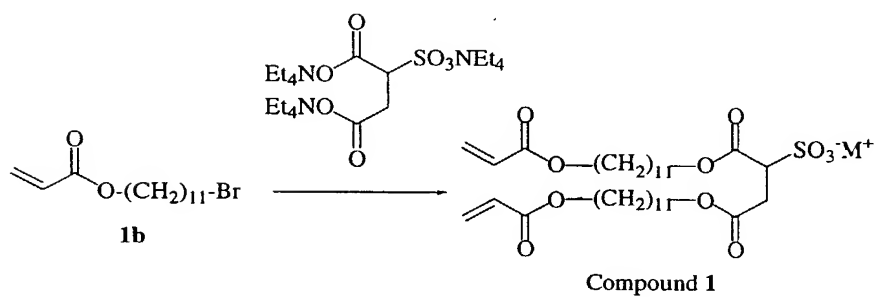
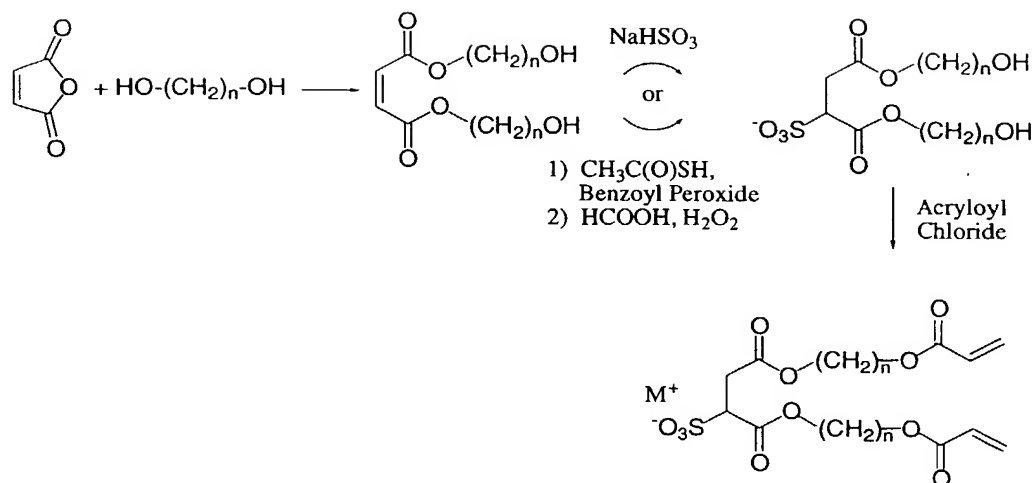
Figure 6



PG = Polymerizable Group

Figure 7







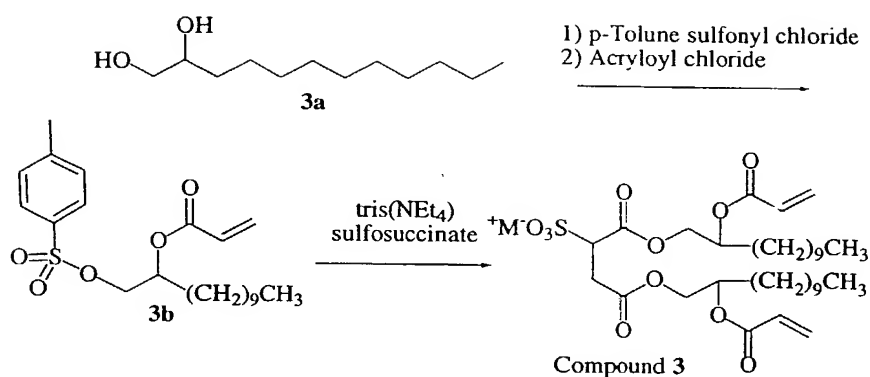


Figure 11d

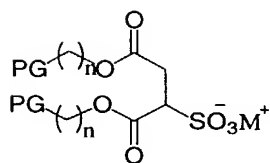


Figure 12

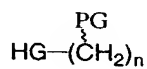


Figure 13

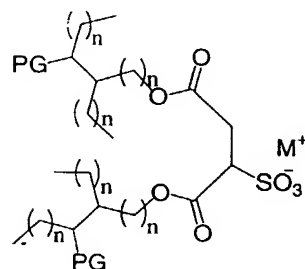


Figure 14

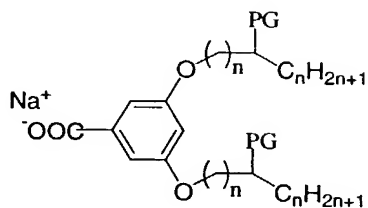


Figure 15

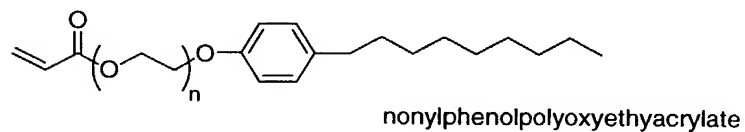
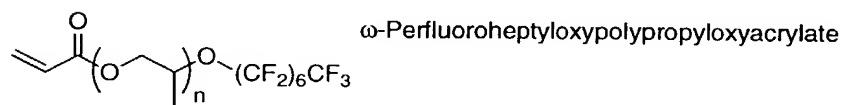
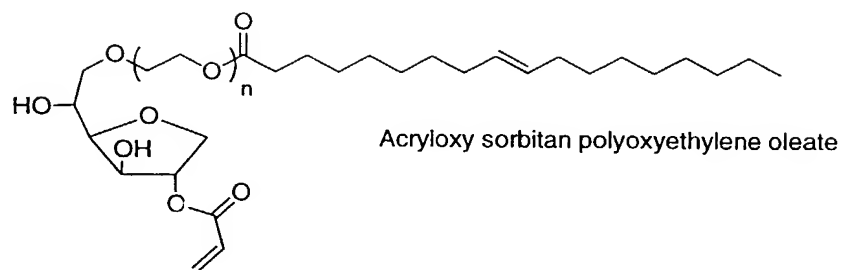


Figure 16

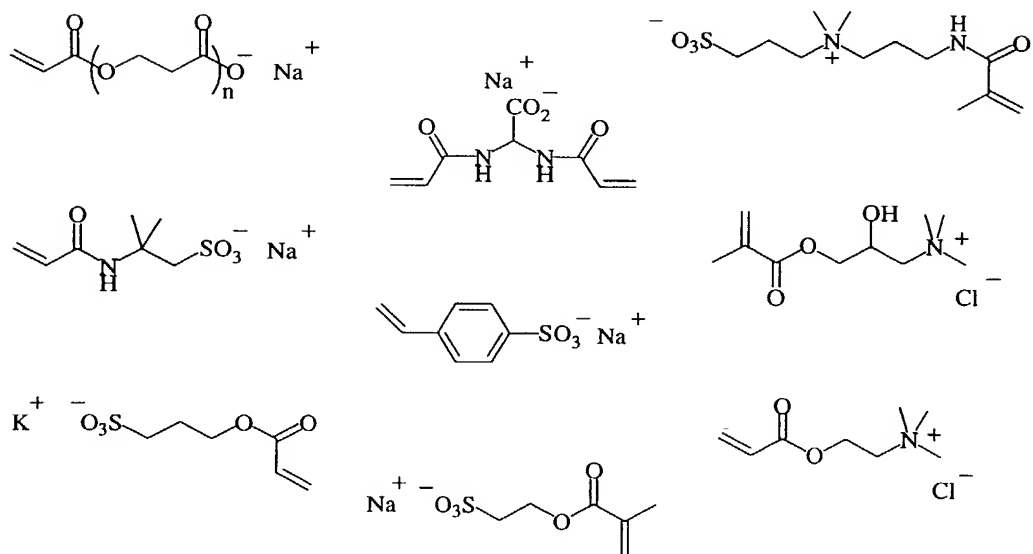


Figure 17

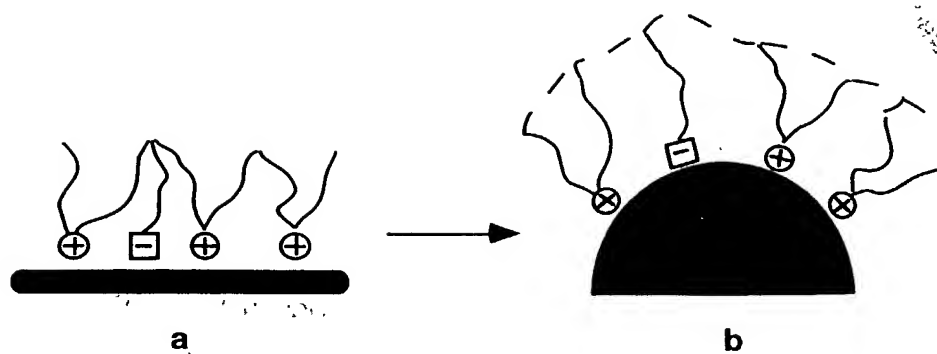


Figure 18

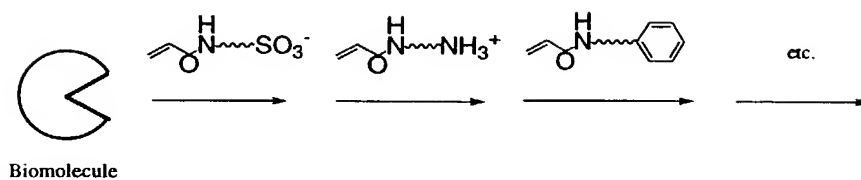
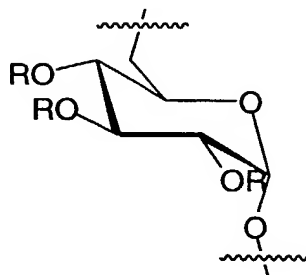


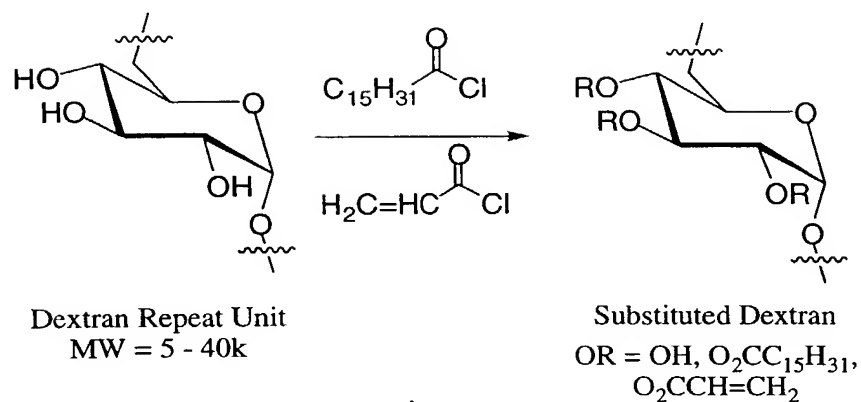
Figure 19a



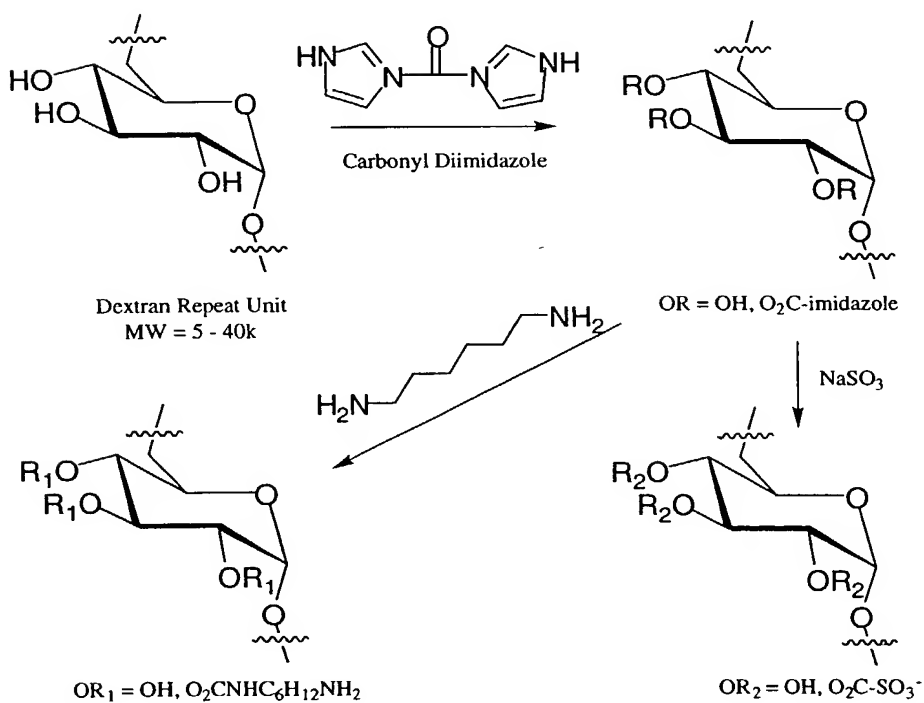
### Substituted Dextrans

OR = OH,  $\text{O}_2\text{CC}_{15}\text{H}_{31}$ ,  
 $\text{O}_2\text{CCH}=\text{CH}_2$ ,  $\text{OSO}_3^-$ ,  
 $\text{O}_2\text{CNH}(\text{CH}_2)_6\text{NH}_3^+$ ,  
 $\text{O}_2\text{CNH}(\text{CH}_2)_6$ -aromatics

Figure 19b

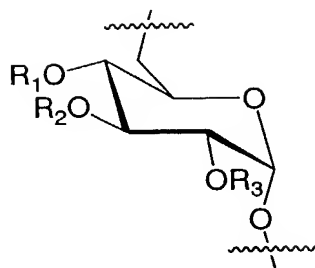


Carbohydrate based reactive surfactants



Addition of polar headgroups to polysaccharides

Figure 19c



Formula 6

Figure 19d

4055-837-4055-84

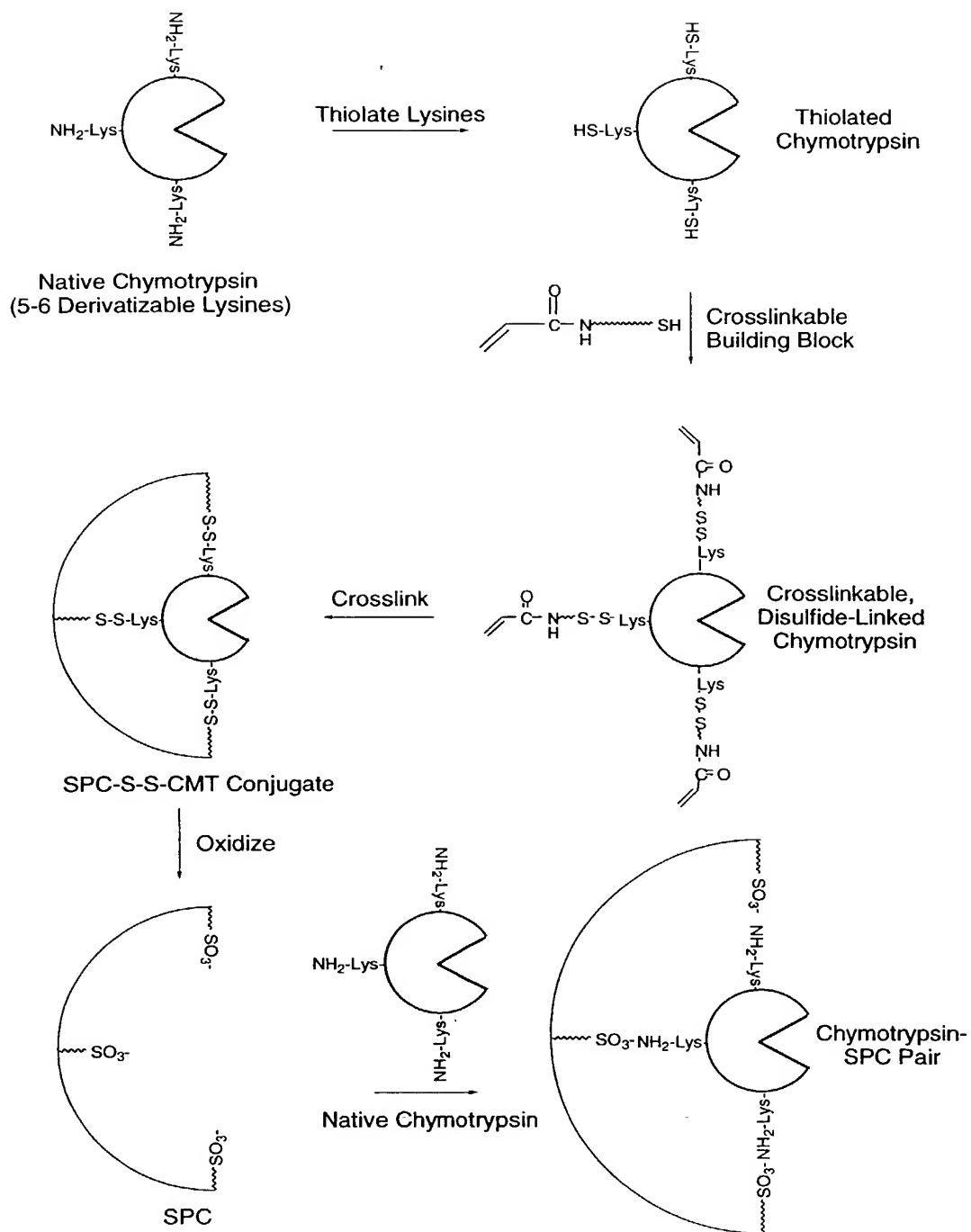


Figure 20a

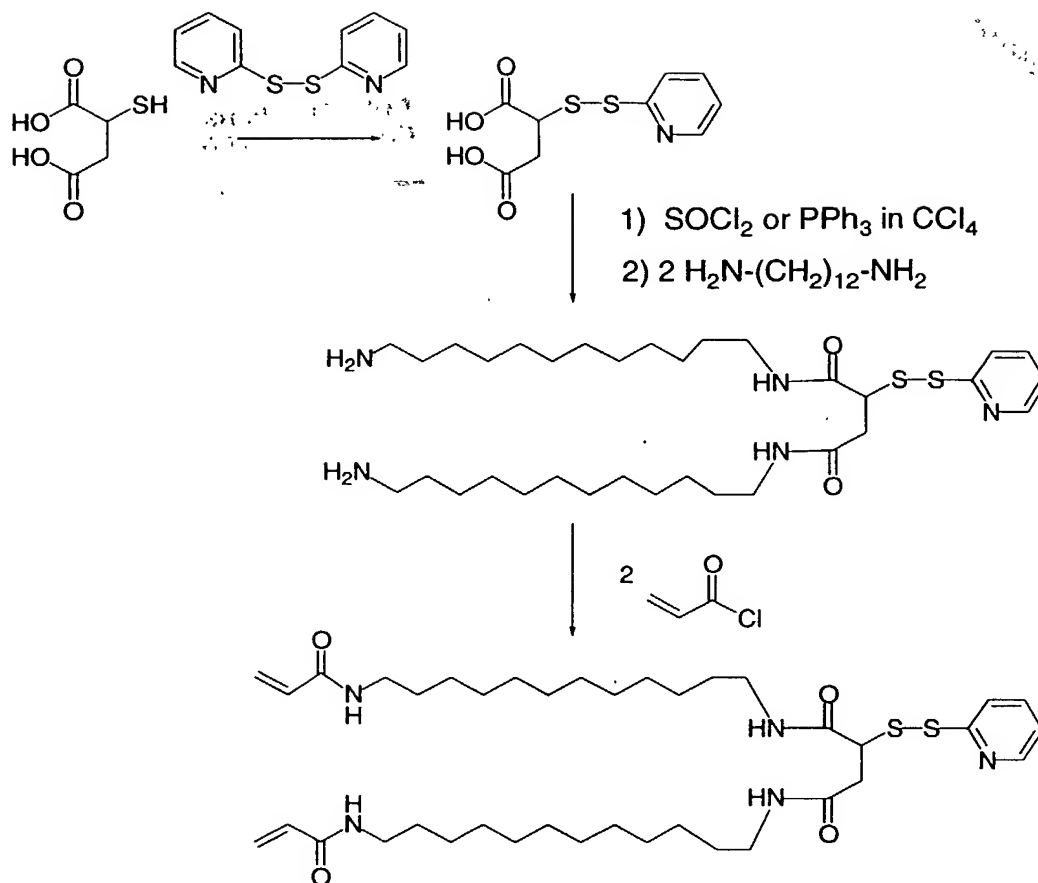


Figure 20b

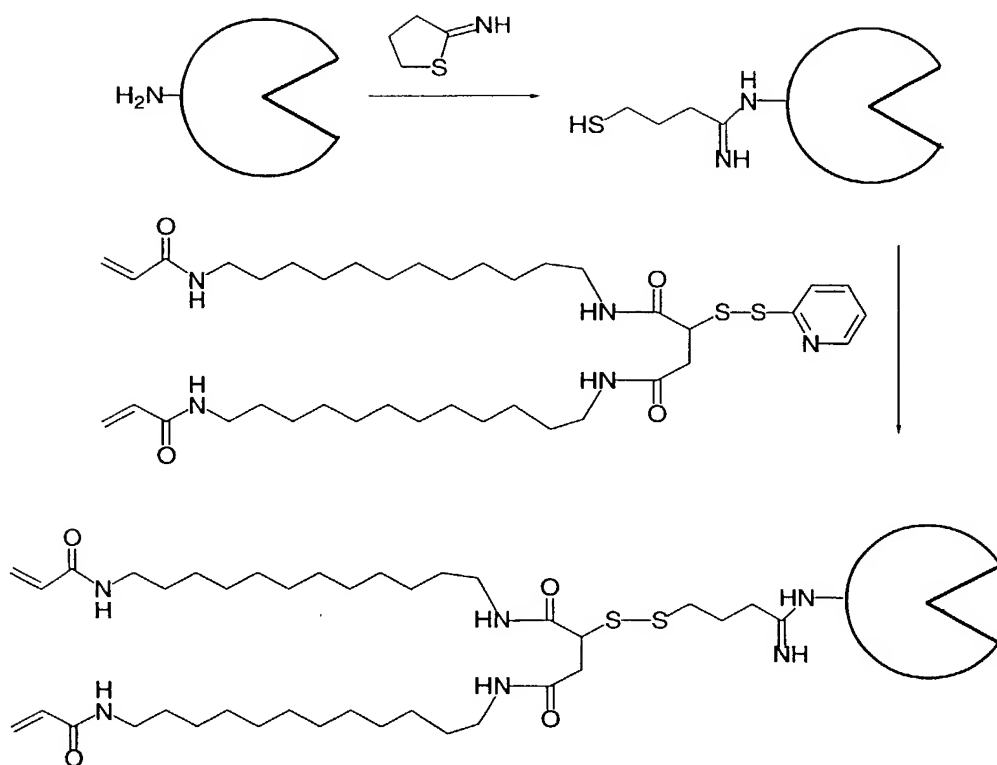


Figure 20c



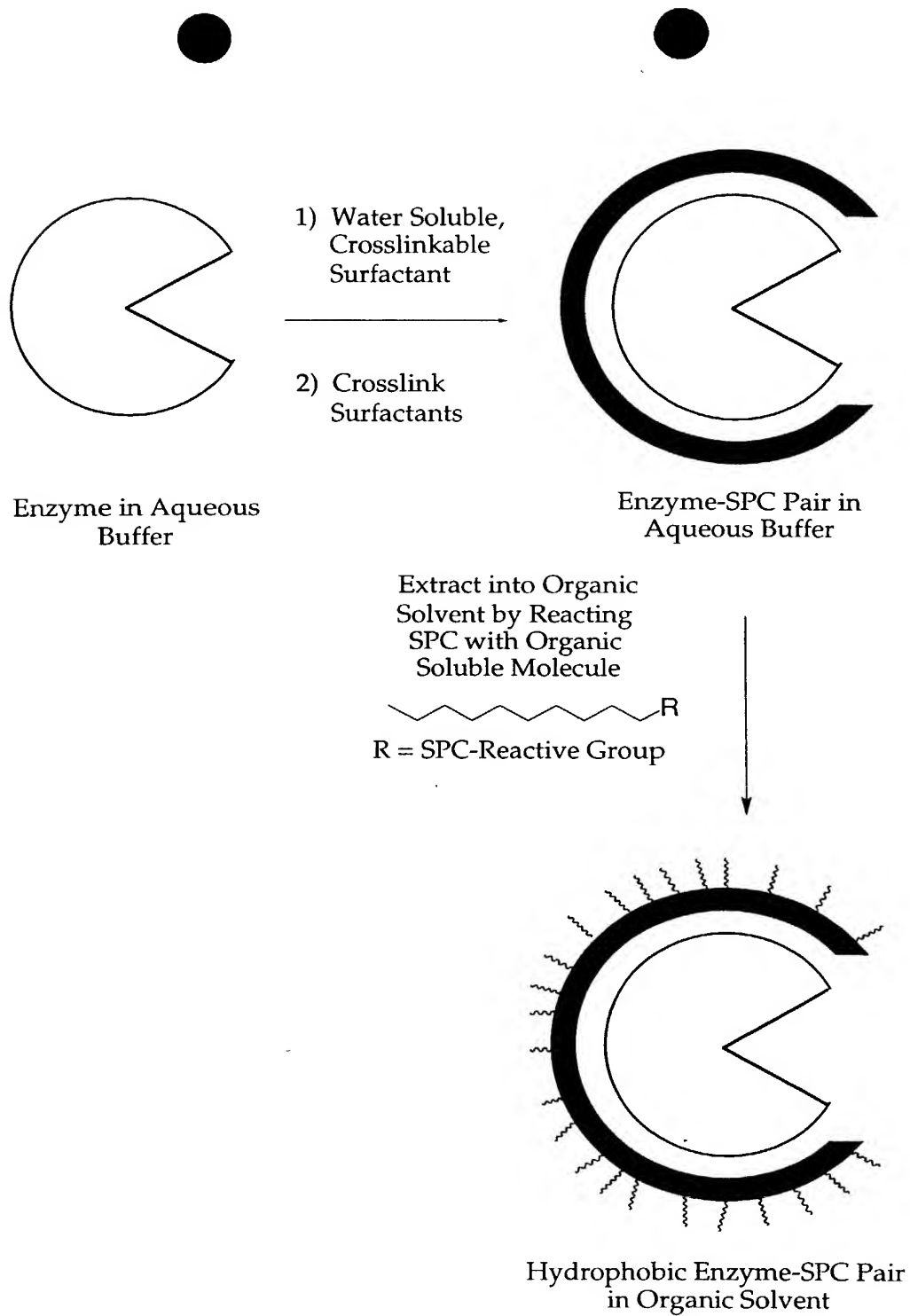


Figure 21

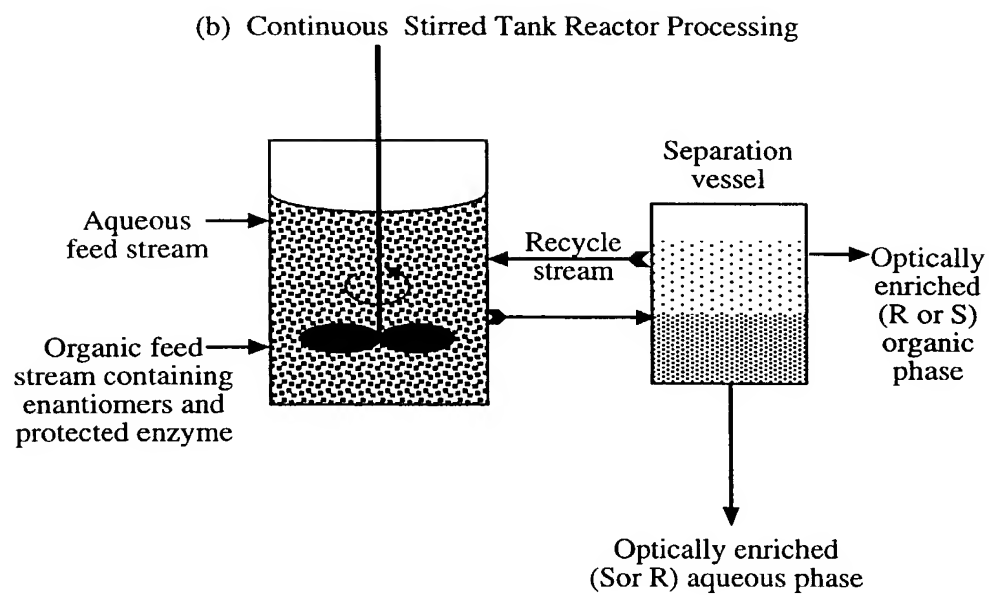
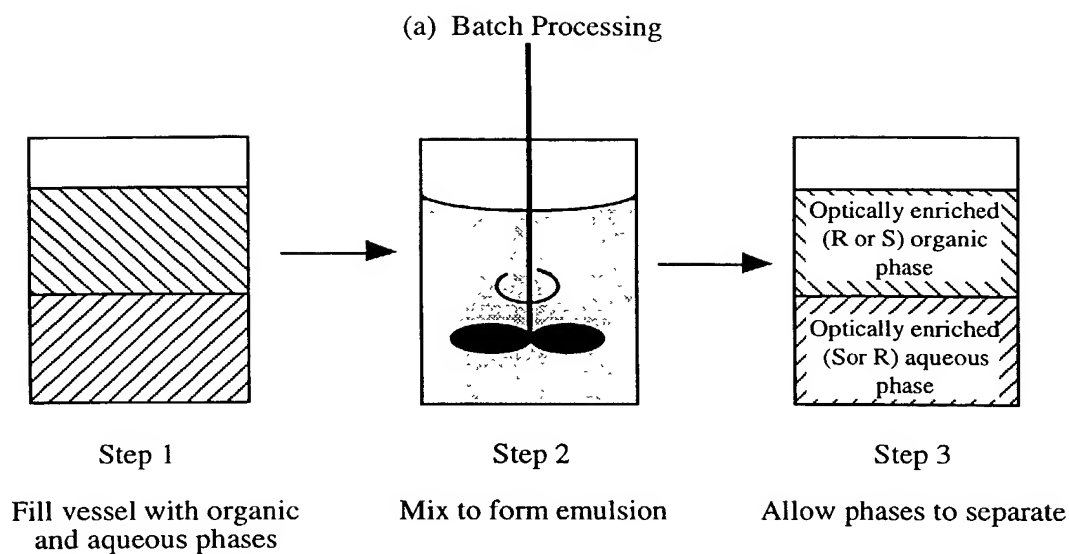


Figure 22

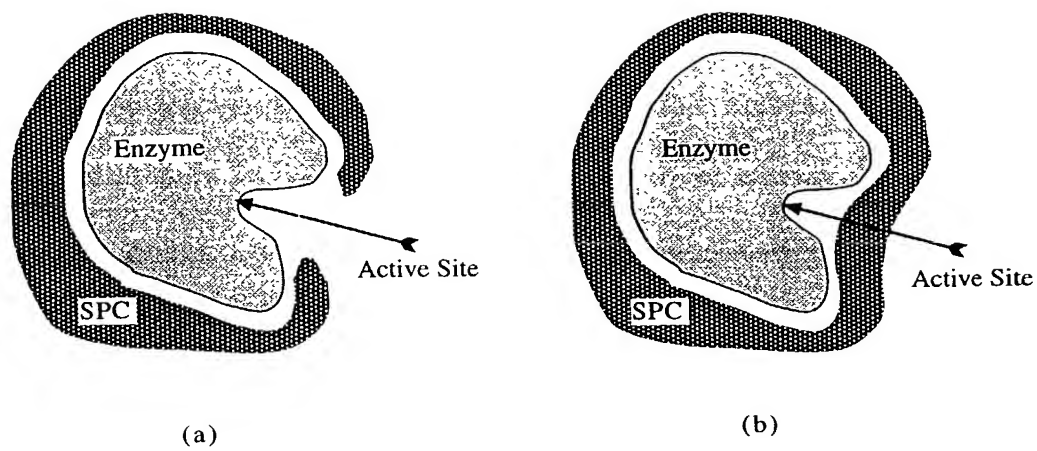


Figure 23

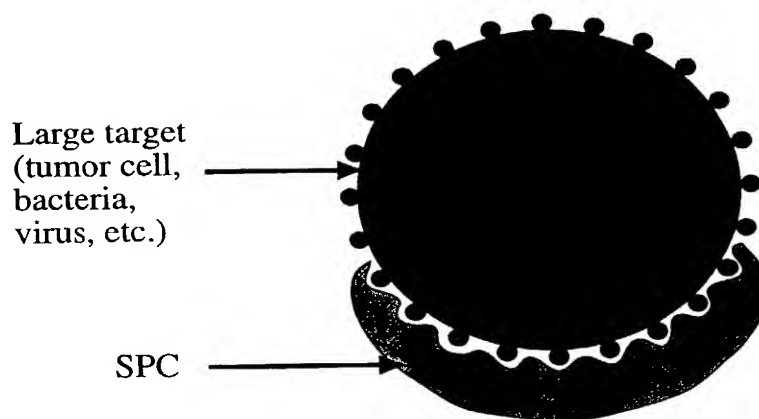


Figure 24

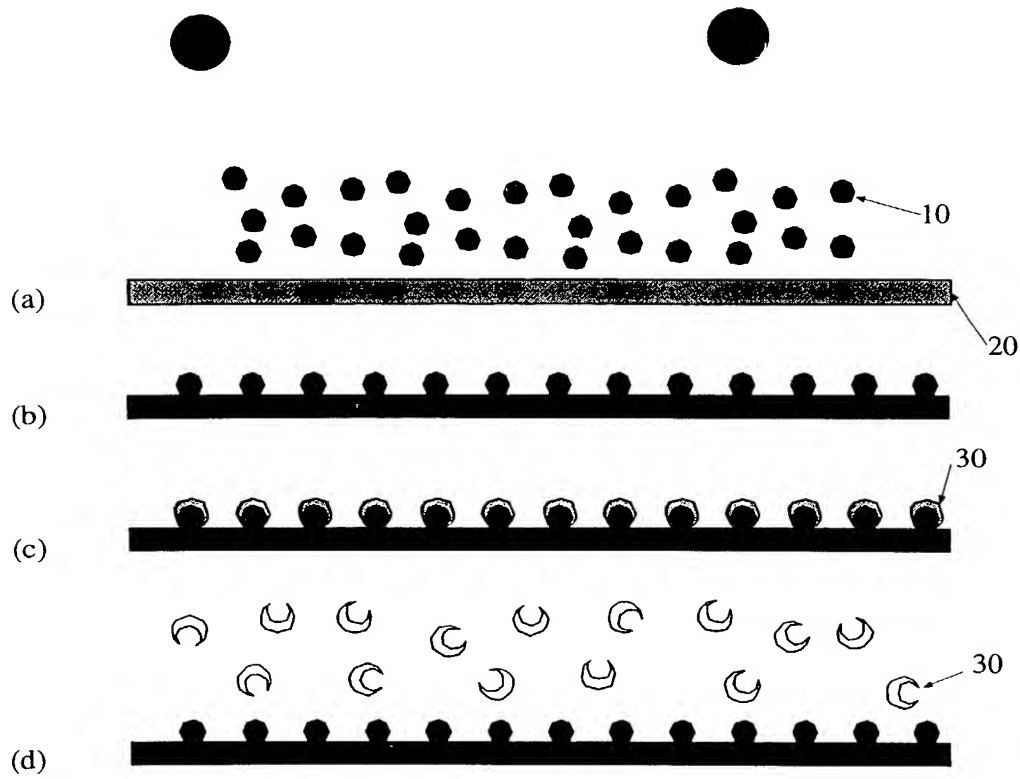


Figure 25

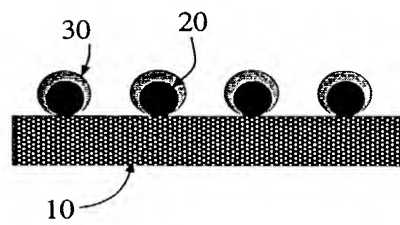


Figure 26



Figure 27

SCANNED # 14

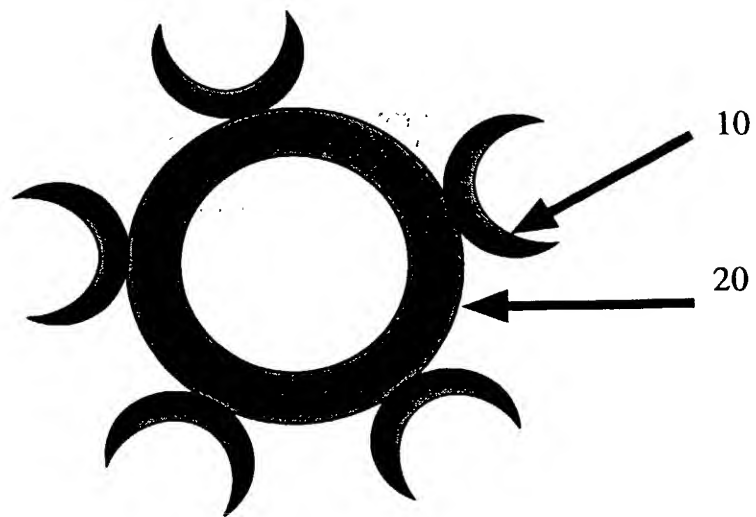


Figure 28

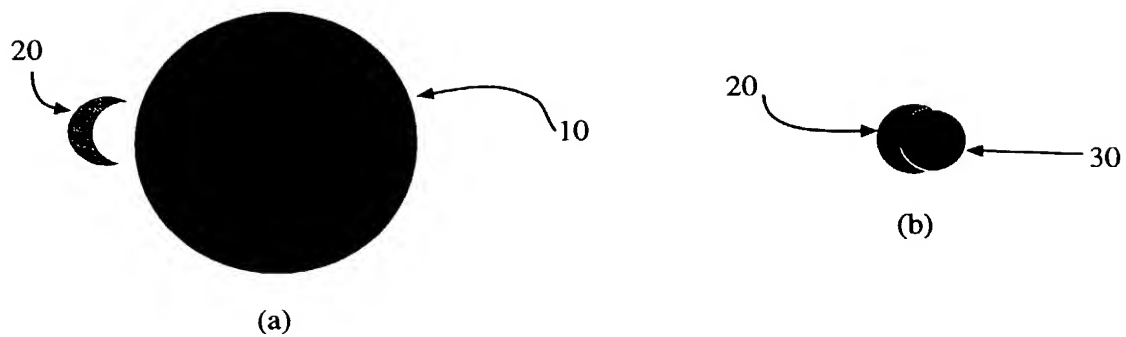
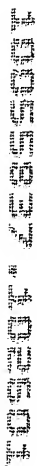
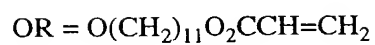
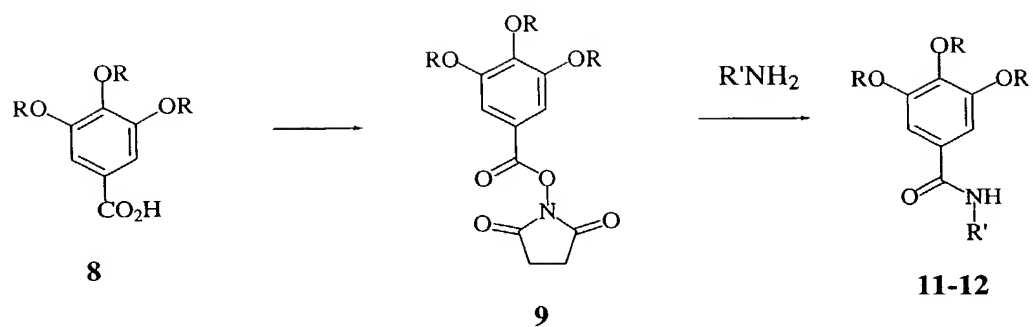


Figure 29


$$\text{R}'\text{NH}_2$$

### Exemplary Compounds **11** and **12**

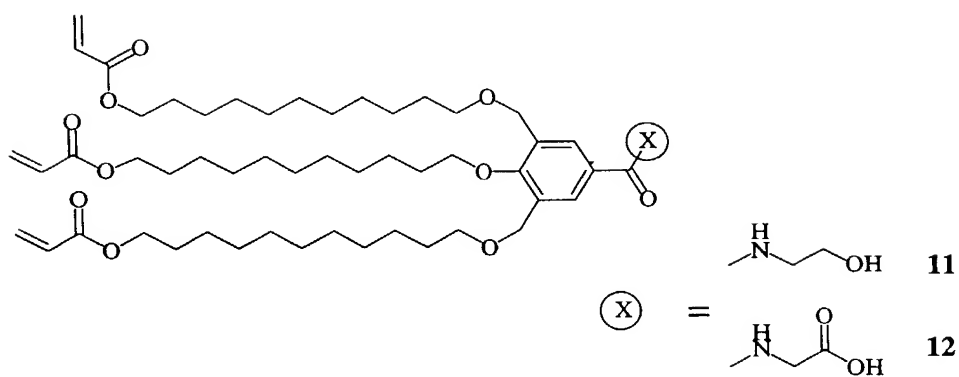
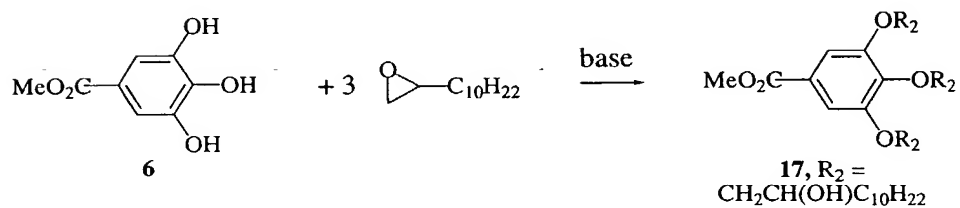
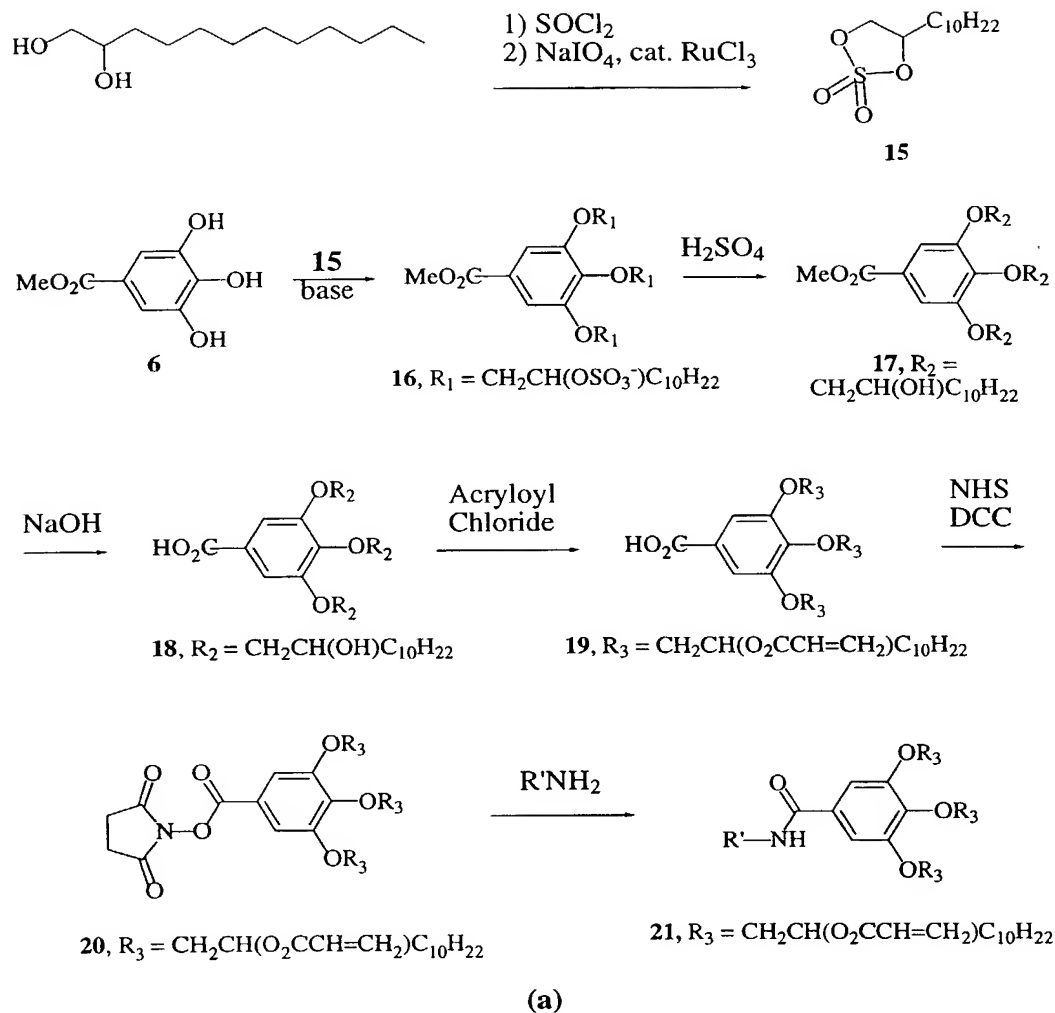


Figure 32



**(b)**

Figure 33



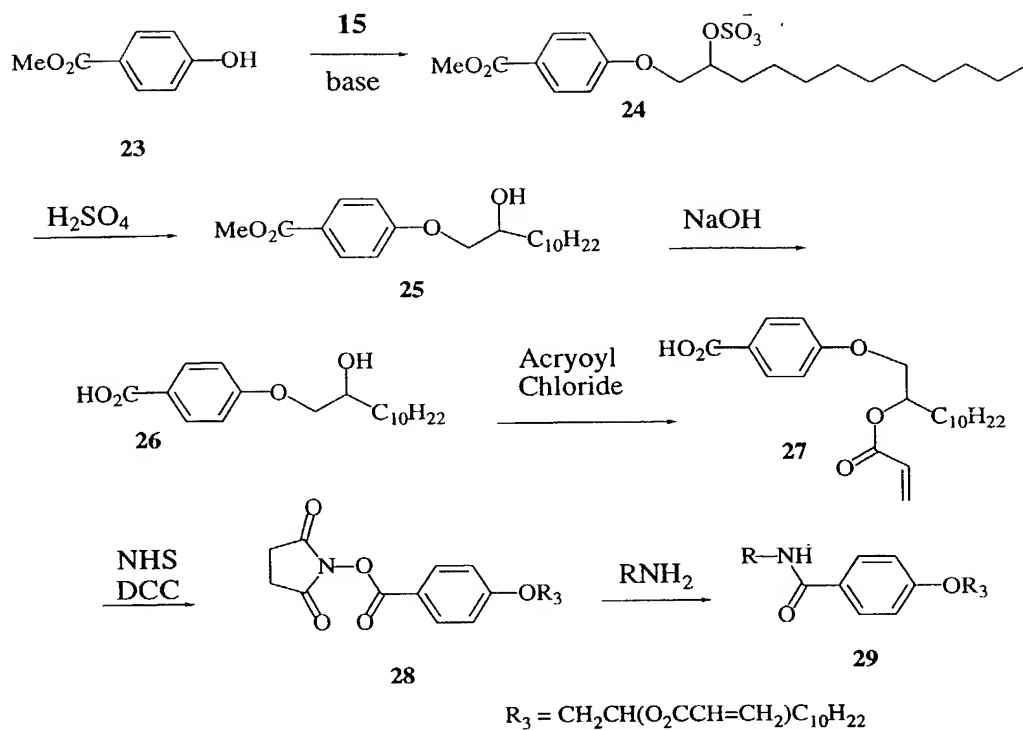


Figure 34

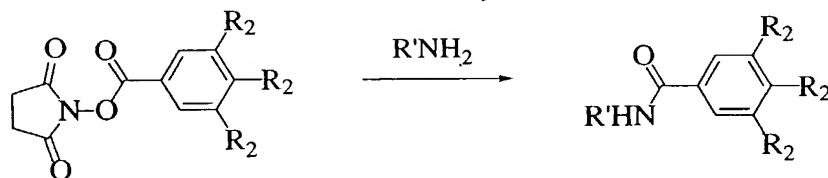
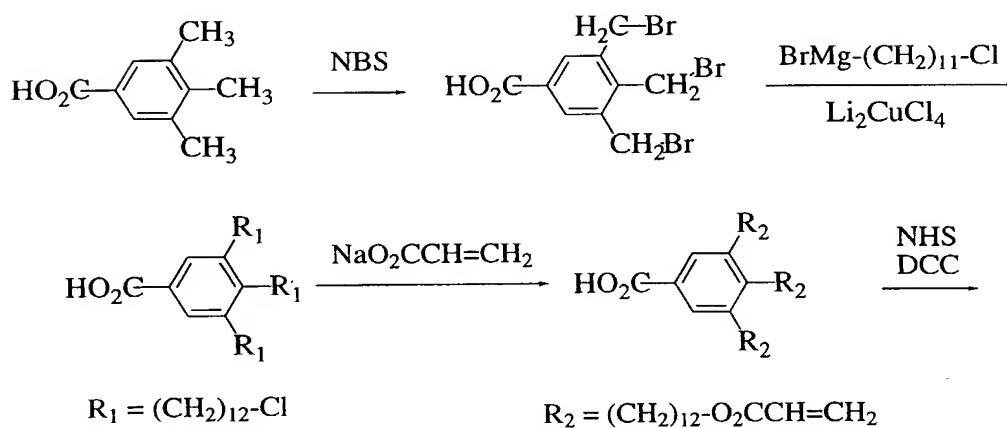


Figure 35

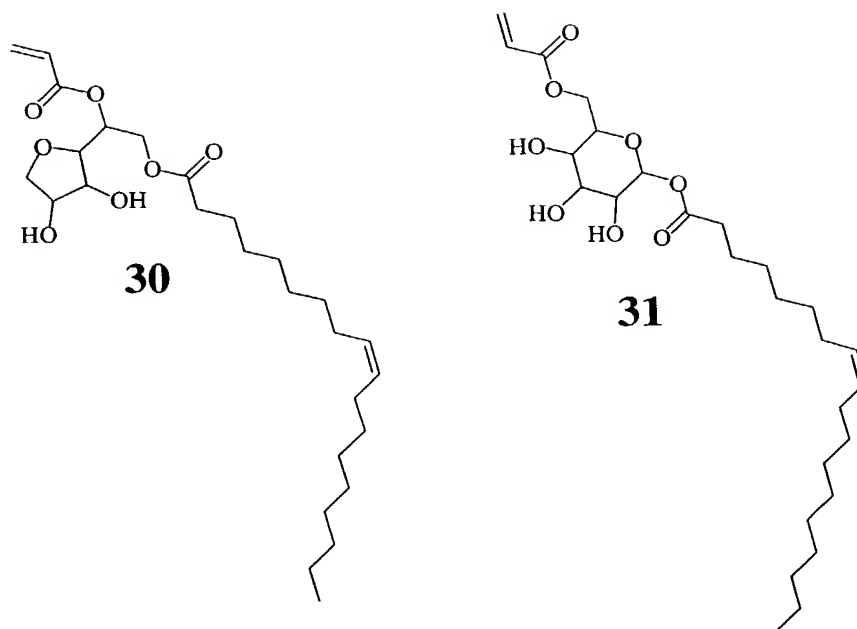


Figure 36

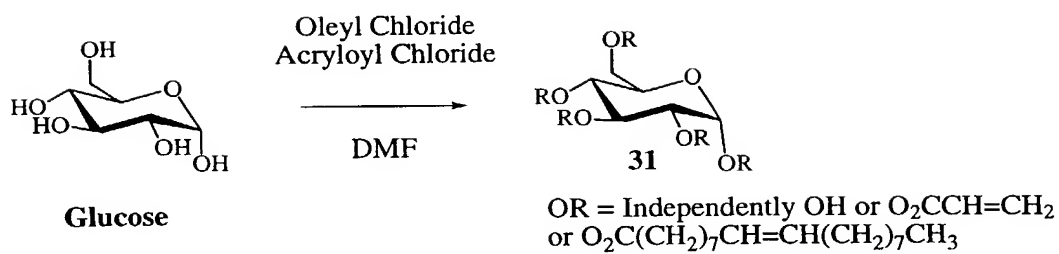


Figure 37

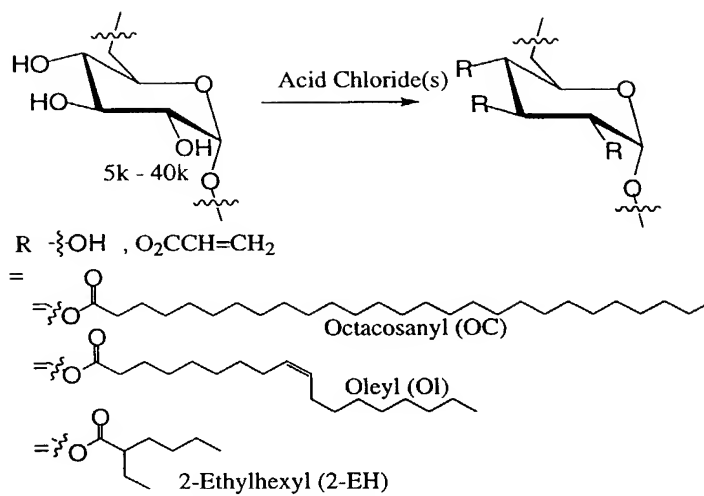


Figure 38

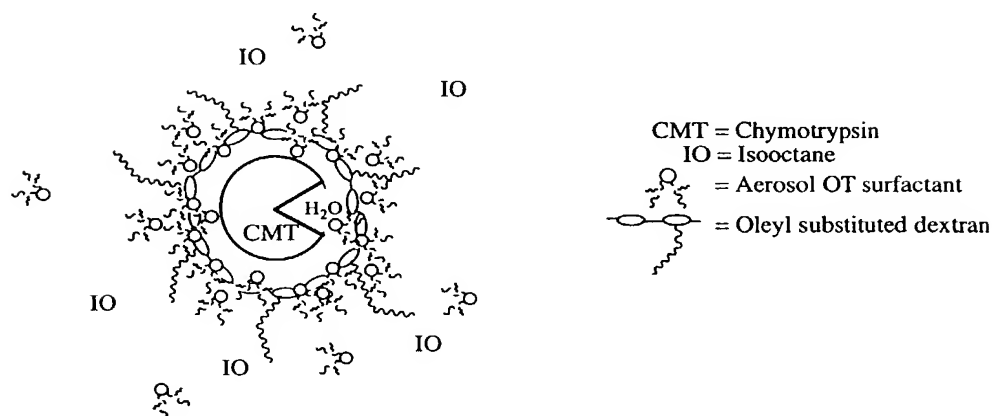
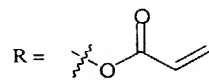
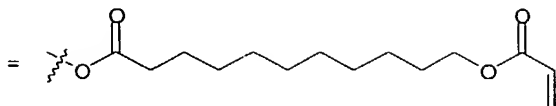


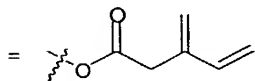
Figure 39



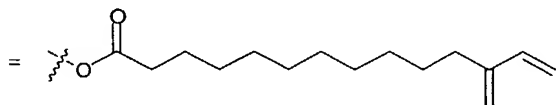
Acrylate Tail (Ac)



Acrylate Hydrophobic Tail (AcH)



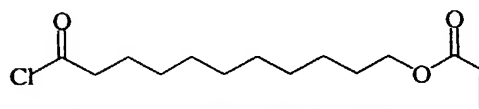
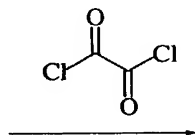
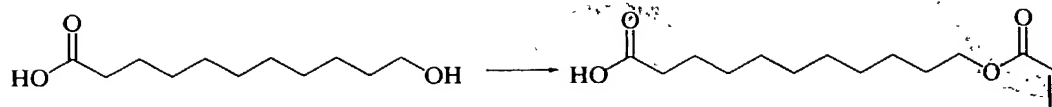
Butadiene Tail (Bd)



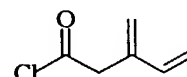
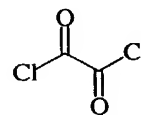
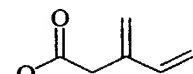
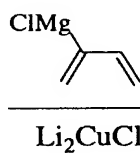
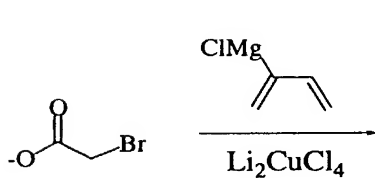
Butadiene Hydrophobic Tail (BdH)

Figure 40

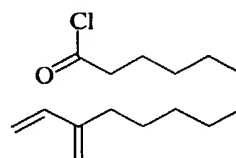
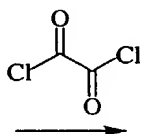
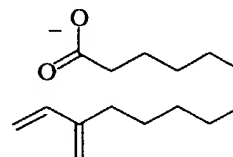
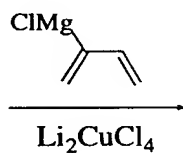
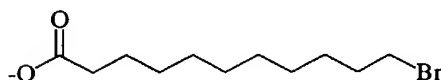
SCANNED, # 14



Acrylate with Hydrophobic Spacer



Butadiene Acid Chloride



Butadiene Acid Chloride with Hydrophobic Spacer

Figure 41

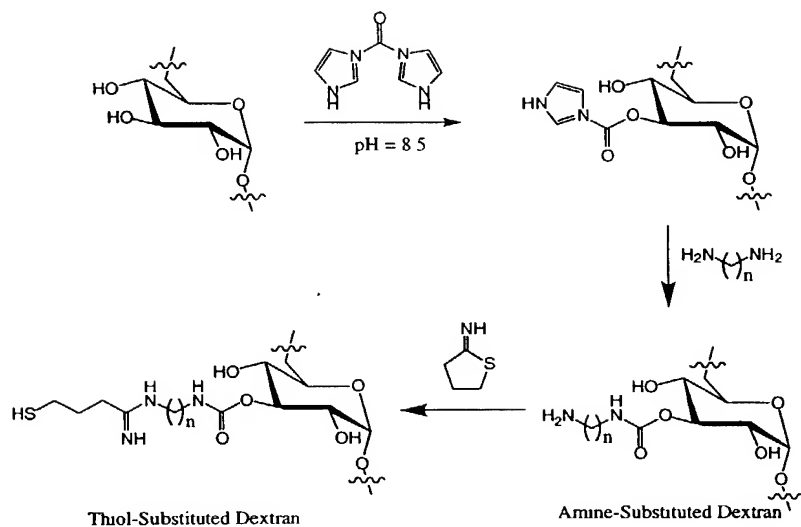


Figure 42

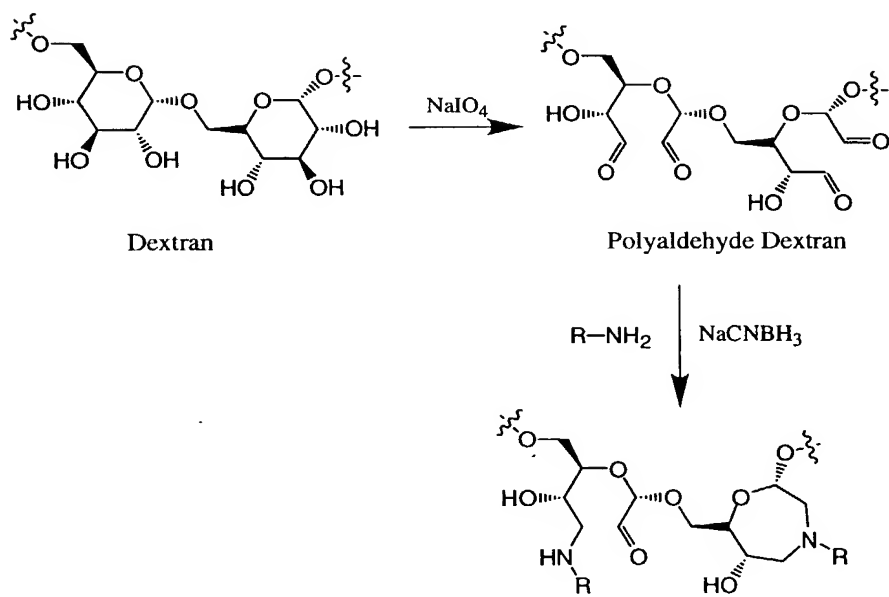
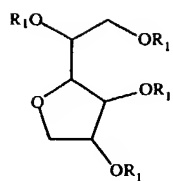
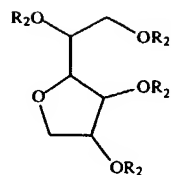


Figure 43



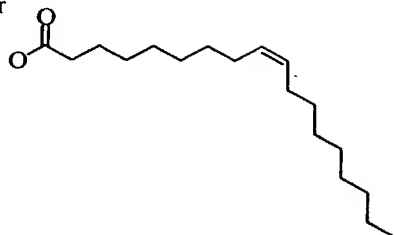
Acryloyl Chloride

$\xrightarrow{\text{CH}_2\text{Cl}_2}$



30

OR<sub>1</sub> = independently  
OH or



OR<sub>2</sub> = independently  
OH or  
O<sub>2</sub>CCH=CH<sub>2</sub> or  
O<sub>2</sub>C(CH<sub>2</sub>)<sub>7</sub>CH=CH(CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>

Figure 44

SCANNED # 14